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AMENDMENTS TO THE SPECIFICATION

On page 1 of the specification, please replace the paragraph that begins on line 3 and ends on line 5 with the paragraph provided on the attached replacement sheet. The paragraph has been amended on line 5 of the originally filed specification after "23, 1999" to insert:

-- , issued as U.S. Patent 6,627,616, which is a continuation-in-part of Application No. 09/391,260, filed Sep. 7, 1999, abandoned, which is a divisional of Application No. 08/975,573, filed Nov. 21, 1997, issued as U.S. Patent 6,265,387, which is a continuation of Application No. 08/571,536, filed Dec. 13, 1995, abandoned --.

An accompanying Petition under 37 CFR 1.78 is filed together with this letter.

LISTING OF CLAIMS READABLE ON ELECTED SPECIES

1. (currently amended) A process for delivering ~~a protein or peptide~~ naked polynucleotides to a skeletal muscle tissue of a patient ~~for improving blood flow in the tissue~~ comprising: a) injecting the naked polynucleotides ~~encoding the peptide or protein~~ into a blood vessel lumen, *in vivo*, wherein the naked polynucleotides encode a vascular endothelial growth factor; b) increasing extravascular volume in the skeletal muscle tissue; and, c) delivering the naked polynucleotides to extravascular skeletal muscle cells via the increased volume, wherein the vascular endothelial growth factor is expressed from the polynucleotides ~~is expressed~~ resulting in improving blood flow in the tissue.
2. (original) The process of claim 1 wherein improving blood flow consists of stimulating new blood vessel formation.
5. (currently amended) The process of claim [[4]] 1 wherein the vascular endothelial growth factor is selected from the list consisting of: VEGF, VEGF II, VEGF-B, VEGF-C, VEGF-D, VEGF-E, $VEGF_{121}$, $VEGF_{138}$, $VEGF_{145}$, $VEGF_{165}$, $VEGF_{189}$ and $VEGF_{206}$.
9. (original) The process of claim 1 wherein the blood vessel consists of a limb artery.
10. (original) The process of claim 1 wherein the limb artery consists of the femoral artery.
11. (original) The process of claim 1 wherein permeability of the vessel is increased by inserting papaverine into the vessel prior to or together with the polynucleotides.
12. (currently amended) The process of claim 1, wherein ~~delivery of the polynucleotide~~ expression of the vascular endothelial growth factor stimulates angiogenesis in the muscle tissue.
13. (original) The process of claim 1 wherein improving blood flow consists of improving collateral blood flow.
14. (original) The process of claim 13 wherein improving collateral blood flow consists of stimulating collateral blood vessel formation.
15. (currently amended) The process of claim 1 wherein the skeletal muscle tissue is affected by a vascular occlusion.
16. (currently amended) The process of claim 1 wherein the skeletal muscle tissue is not affected by a vascular occlusion.

17. (currently amended) The process of claim 1 wherein the skeletal muscle tissue is suffering from ischemia.

18. (currently amended) The process of claim 1 wherein the skeletal muscle tissue is not suffering from ischemia.

23. (currently amended) The process of claim [[22]] 1 wherein the skeletal muscle tissue is limb skeletal muscle tissue.

24. (original) The process of claim 23 wherein the limb skeletal muscle tissue is human limb skeletal muscle tissue.

25. (original) The process of claim 1 wherein the patient has peripheral vascular disease.

26. (original) The process of claim 1 wherein the patient has peripheral arterial occlusive disease.

27. (original) The process of claim 1 wherein the patient has peripheral-deficient vascular disease.

29. (original) The process of claim 26 wherein the patient suffers from claudication or intermittent claudication.

30. (original) The process of claim 26 wherein delivery of the polynucleotide results in decreased pain associated with a peripheral circulatory disorder.

31. (currently amended) The process of claim 1 wherein the ~~peptide or protein~~ vascular endothelial growth factor is secreted from the muscle cell.

32. (currently amended) The process of claim 1 wherein the ~~peptide or protein~~ vascular endothelial growth factor stimulates vascular cell growth.

33. (currently amended) The process of claim 1 wherein ~~delivery of the polynucleotide~~ expression of the vascular endothelial growth factor stimulates vascular cell migration.

34. (currently amended) The process of claim 1 wherein ~~delivery of the polynucleotide~~ expression of the vascular endothelial growth factor stimulates vascular cell proliferation.

COMPLETE LISTING OF THE CLAIMS

In the claims, please cancel claims 35-38 and amend claims 1, 5, 12, 15-18, 23, and 31-34 as follows:

1. (currently amended) A process for delivering ~~a protein or peptide~~ naked polynucleotides to a skeletal muscle tissue of a patient ~~for improving blood flow in the tissue~~ comprising: a) injecting the naked polynucleotides ~~encoding the peptide or protein~~ into a blood vessel lumen, *in vivo*, wherein the naked polynucleotides encode a vascular endothelial growth factor; b) increasing extravascular volume in the skeletal muscle tissue; and, c) delivering the naked polynucleotides to extravascular skeletal muscle cells via the increased volume, wherein the vascular endothelial growth factor is expressed from the polynucleotides ~~is expressed~~ resulting in improving blood flow in the tissue.
2. (original) The process of claim 1 wherein improving blood flow consists of stimulating new blood vessel formation.
3. (canceled)
4. (canceled)
5. (currently amended) The process of claim [[4]] 1 wherein the vascular endothelial growth factor is selected from the list consisting of: VEGF, VEGF II, VEGF-B, VEGF-C, VEGF-D, VEGF-E, $VEGF_{121}$, $VEGF_{138}$, $VEGF_{145}$, $VEGF_{165}$, $VEGF_{189}$ and $VEGF_{206}$.
6. (withdrawn) The process of claim 3 wherein the angiogenic factor consists of fibroblast growth factor.
7. (withdrawn) The process of claim 6 wherein the fibroblast growth factor is selected from the list consisting of: FGF-1, FGF-1b, FGF-1c, FGF-2, FGF-2b, FGF-2c, FGF-3, FGF-3b, FGF-3c, FGF-4, FGF-5, FGF-7, FGF-9, acidic FGF and basic FGF.
8. (withdrawn) The process of claim 1 wherein the blood vessel consists of a coronary vessel.
9. (original) The process of claim 1 wherein the blood vessel consists of a limb artery.
10. (original) The process of claim 1 wherein the limb artery consists of the femoral artery.
11. (original) The process of claim 1 wherein permeability of the vessel is increased by inserting papaverine into the vessel prior to or together with the polynucleotides.

12. (currently amended) The process of claim 1, wherein ~~delivery of the polynucleotide~~ expression of the vascular endothelial growth factor stimulates angiogenesis in the muscle tissue.
13. (original) The process of claim 1 wherein improving blood flow consists of improving collateral blood flow.
14. (original) The process of claim 13 wherein improving collateral blood flow consists of stimulating collateral blood vessel formation.
15. (currently amended) The process of claim 1 wherein the skeletal muscle tissue is affected by a vascular occlusion.
16. (currently amended) The process of claim 1 wherein the skeletal muscle tissue is not affected by a vascular occlusion.
17. (currently amended) The process of claim 1 wherein the skeletal muscle tissue is suffering from ischemia.
18. (currently amended) The process of claim 1 wherein the skeletal muscle tissue is not suffering from ischemia.
19. (withdrawn) The process of claim 1 wherein the muscle tissue is heart muscle tissue.
20. (withdrawn) The process of claim 19 wherein the heart muscle tissue is human heart muscle tissue.
21. (withdrawn) The process of claim 19 wherein delivery of the polynucleotide improves abnormal cardiac function.
22. (canceled)
23. (currently amended) The process of claim [[22]] 1 wherein the skeletal muscle tissue is limb skeletal muscle tissue.
24. (original) The process of claim 23 wherein the limb skeletal muscle tissue is human limb skeletal muscle tissue.
25. (original) The process of claim 1 wherein the patient has peripheral vascular disease.
26. (original) The process of claim 1 wherein the patient has peripheral arterial occlusive disease.
27. (original) The process of claim 1 wherein the patient has peripheral-deficient vascular disease.

28. (withdrawn) The process of claim 1 wherein the patient has myocardial ischemia.

29. (original) The process of claim 26 wherein the patient suffers from claudication or intermittent claudication.

30. (original) The process of claim 26 wherein delivery of the polynucleotide results in decreased pain associated with a peripheral circulatory disorder.

31. (currently amended) The process of claim 1 wherein the ~~peptide or protein~~ vascular endothelial growth factor is secreted from the muscle cell.

32. (currently amended) The process of claim 1 wherein the ~~peptide or protein~~ vascular endothelial growth factor stimulates vascular cell growth.

33. (currently amended) The process of claim 1 wherein ~~delivery of the polynucleotide~~ expression of the vascular endothelial growth factor stimulates vascular cell migration.

34. (currently amended) The process of claim 1 wherein ~~delivery of the polynucleotide~~ expression of the vascular endothelial growth factor stimulates vascular cell proliferation.

35-38. (canceled)